



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------|-------------|----------------------|---------------------|------------------|
| 10/702,152 | 11/05/2003 | Xiaolin Wang | | 7812 |
| 41840 | 7590 | 08/03/2007 | EXAMINER | |
| RINES & RINES | | | PEZZLO, JOHN | |
| 24 Warren St. | | | | |
| CONCORD, NH 03301 | | | ART UNIT | PAPER NUMBER |
| | | | 2616 | |
| | | | MAIL DATE | DELIVERY MODE |
| | | | 08/03/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | |
|------------------------------|-------------------------|------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/702,152 | WANG ET AL. |
| | Examiner John Pezzlo | Art Unit 2616 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-28 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-7, 11-20 and 24-28 is/are rejected.
- 7) Claim(s) 8-10 and 21-23 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 11 February 2004 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

Claim Objections

- I. Claims 1 and 7 and 14 are objected to because of the following informalities:
 1. Regarding claim 1 – Lines 3, 8, 9, and 13 the claim refers to "types of data packet" (line 3), "type of data packet" (line 8), "types of traffic flow" (line 9), and "data traffic types" (line 13), which render the claim indefinite. Type and types needs to be defined in the claim.
 2. Regarding claim 1 – Line 8, "its" needs to be replaced with an explicit term.
 3. Regarding claim 1 – Line 4, "customer-assigned service requirements such as" is not limited and is indefinite.
 4. Regarding claim 7 – Line 3, "its" needs to be replaced with an explicit term.
 5. Regarding claim 14 – Lines 3, 4, 9, 10, 13, and 14 the claim refer to "types of data packet traffic flow" (line 3), "types of data packets" (line 4), "type of data packet" (line 9), "types of traffic flow" (line 10), "type of data packet traffic" (line 13), and "data traffic types" (line 14), which renders the claim indefinite. Type and types needs to be defined in the claim.
 6. Regarding claim 14 – Line 9, "its" needs to be replaced with explicit term.
 7. Regarding claim 14 – Line 5, "customer-assigned service requirements such as" is not limited and is indefinite.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

II. Claims 1-7, 11-20, and 24-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Shankar et al. (US 2003/0174650 A1) hereinafter Shankar.

1. Regarding claims 1 and 14 – Shankar discloses allocating different amounts or percentages of bandwidth to each type of data packet traffic in accordance with its respective customer- assigned service requirements, and scheduling the departure order of the different types of traffic flow from the router to the communication link based upon and adapted to said respective service requirements, and with preservation of the respective various traffic characteristics and priorities, whereby the switch/router provides differentiated services for the various data traffic types, while simultaneously substantially filling the total data packet flow capacity utilization of the link, refer to Figures 2-6 and paragraphs [0026] and [0043] to [0049] and [0053] to [0055].

2. Regarding claims 2 and 15 – Shankar discloses the bandwidth allocating is balanced with the priority of the type of service and in a guaranteed way, refer to Figures 4-6 and paragraphs [0035] to [0055].
3. Regarding claims 3 and 16 – Shankar discloses the bandwidth allocating and the scheduling are effected independently of one another, thereby enabling the router to provide such differentiated services, refer to Figures 2 and 4 and paragraphs [0011] and [0013] and [0024] and [0026] and [0030] and [0035] to [0043].
4. Regarding claims 4 and 17 – Shankar discloses the bandwidth allocating management also implements the full capacity dataflow utilization of the link without wasting bandwidth, refer to Figures 4-6 and paragraphs [0035] to [0055].
5. Regarding claims 5 and 18 – Shankar discloses the different data packet traffic is routed to corresponding egress queues, the bandwidth allocating selects the amounts of bandwidth assigned to each of the queues determining how much data should be released from each queue, and the scheduling, independently of the bandwidth allocating, selects the order or priority of data packet release from the queues to the common communication link, refer to Figures 4-6 and paragraphs [0035] to [0055].
6. Regarding claims 6 and 19 – Shankar discloses the presence of data in each queue is sensed and indicated to the traffic managing for enabling awareness as to the presence of data in

the queue, refer to Figures 2 and 4 and paragraphs [0011] and [0013] and [0024] and [0026] and [0030] and [0035] to [0043].

7. Regarding claims 7 and 20 – Shankar discloses unused or "free" bandwidth allocated to but not used in a queue, is made available for use by another queue that has more data to send than its allocated bandwidth will permit, refer to Figures 2 and 4 and paragraphs [0026] and [0029] and [0030] and [0034] and [0036] and [0053].

8. Regarding claims 11 and 24 – Shankar discloses bandwidth utilization is performed by providing a first stage feedback control between packet data line cards and the sequencing, and a second stage feedback between the scheduling and the bandwidth-allocating, in order automatically to dynamically equalize the rate between the physical transmission link, the scheduling, and the bandwidth allocating, refer to Figures 2-6 and paragraphs [0026] and [0043] to [0049] and [0053] to [0055].

9. Regarding claims 12 and 25 – Shankar discloses the traffic managing tracks the bandwidth based on the size of the data packet payload, scheduling data out from output FIFOs with a minimum over-speed, and, in response to feedback from the data output FIFOs that indicates the amount of data accumulation therein, enabling matching the scheduling rate of traffic managing to the output line rate, maintaining data accumulation at a proper level, refer to Figures 2-6 and paragraphs [0026] and [0043] to [0049] and [0053] to [0055].

10. Regarding claims 13 and 26 – Shankar discloses the bandwidth allocating, the scheduling, and the "free" bandwidth management, are each controlled by separate programmable parameters, with inputs for adapting or setting in accordance with specific customer- allocated parameters that control the traffic transmitted on the link, refer to Figures 2 and 4 and paragraphs [0026] and [0029] and [0030] and [0034] and [0036] and [0053].

11. Regarding claims 27 and 28 – Shankar discloses said filing of the total data packet flow capacity is effected by scheduling the different data packet traffic to flow successively and alternately without holes in the transmission flow, refer to Figures 2-6 and paragraphs [0026] and [0043] to [0049] and [0053] to [0055].

Allowable Subject Matter

Claims 8-10 and 21-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Yoshizawa et al. (US 2003/0033467 A1) discloses a method and apparatus for resource allocation in network router and switch.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Pezzlo whose telephone number is (571) 272-3090. The examiner can normally be reached on Monday to Friday from 8:30 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel, can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C.

or faxed to:

(571) 273-8300

For informal or draft communications, please label "PROPOSED" or "DRAFT"

Hand delivered responses should be brought to:

Jefferson Building

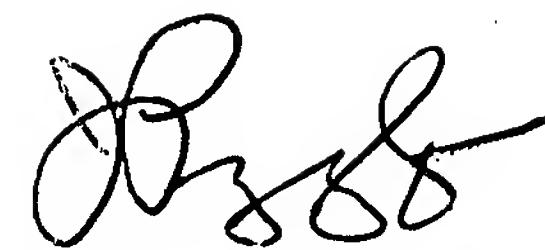
2A15

500 Dulany Street

Alexandria, VA, 22313.

John Pezzlo

27 July 2007



**JOHN PEZZLO
PRIMARY EXAMINER**